

Fig. 1. Illustrative example of a function model of an engineering system (Prior Art)

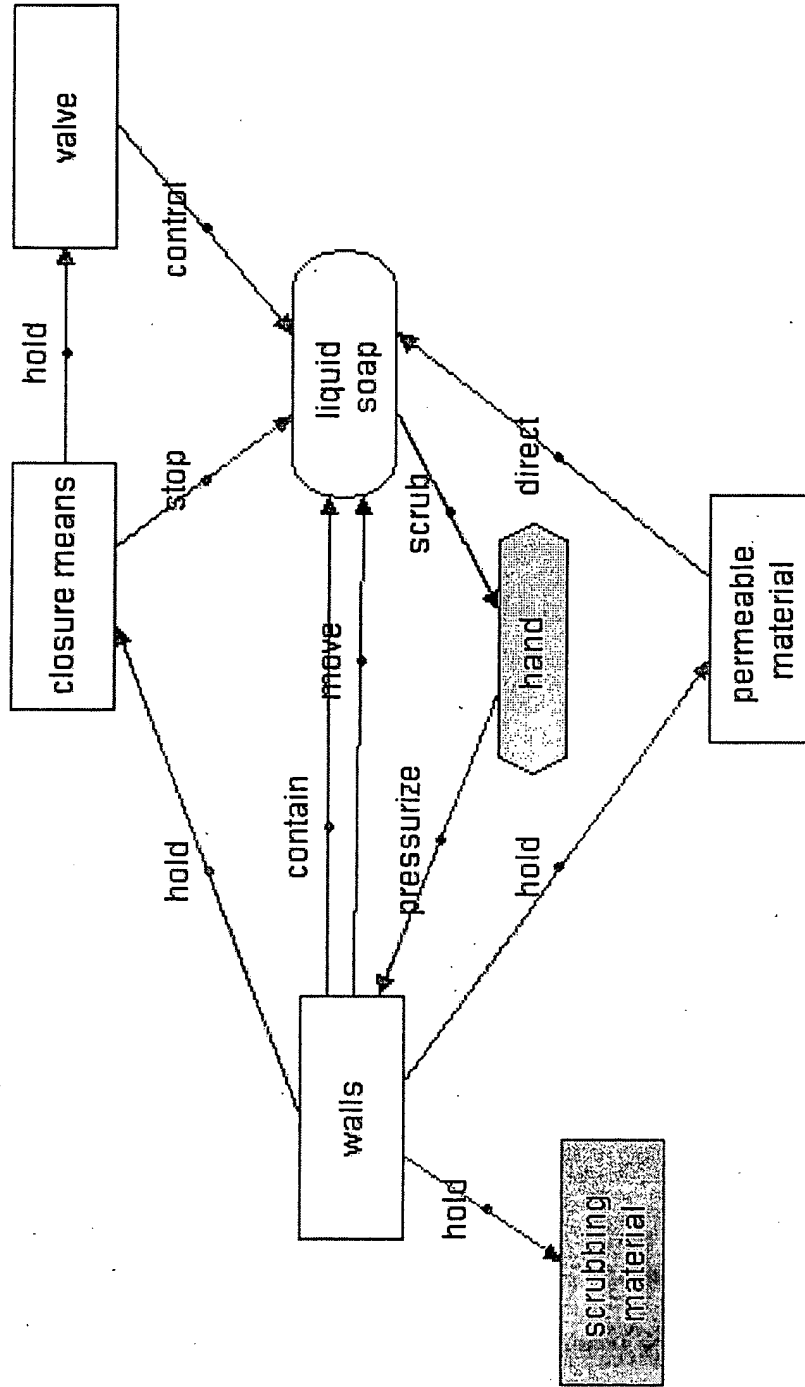
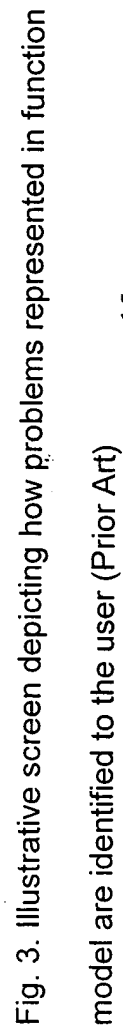


Fig. 2. Illustrative example of a function model of an engineering system from Fig. 1 which has been modified through a simplification (Prior Art)



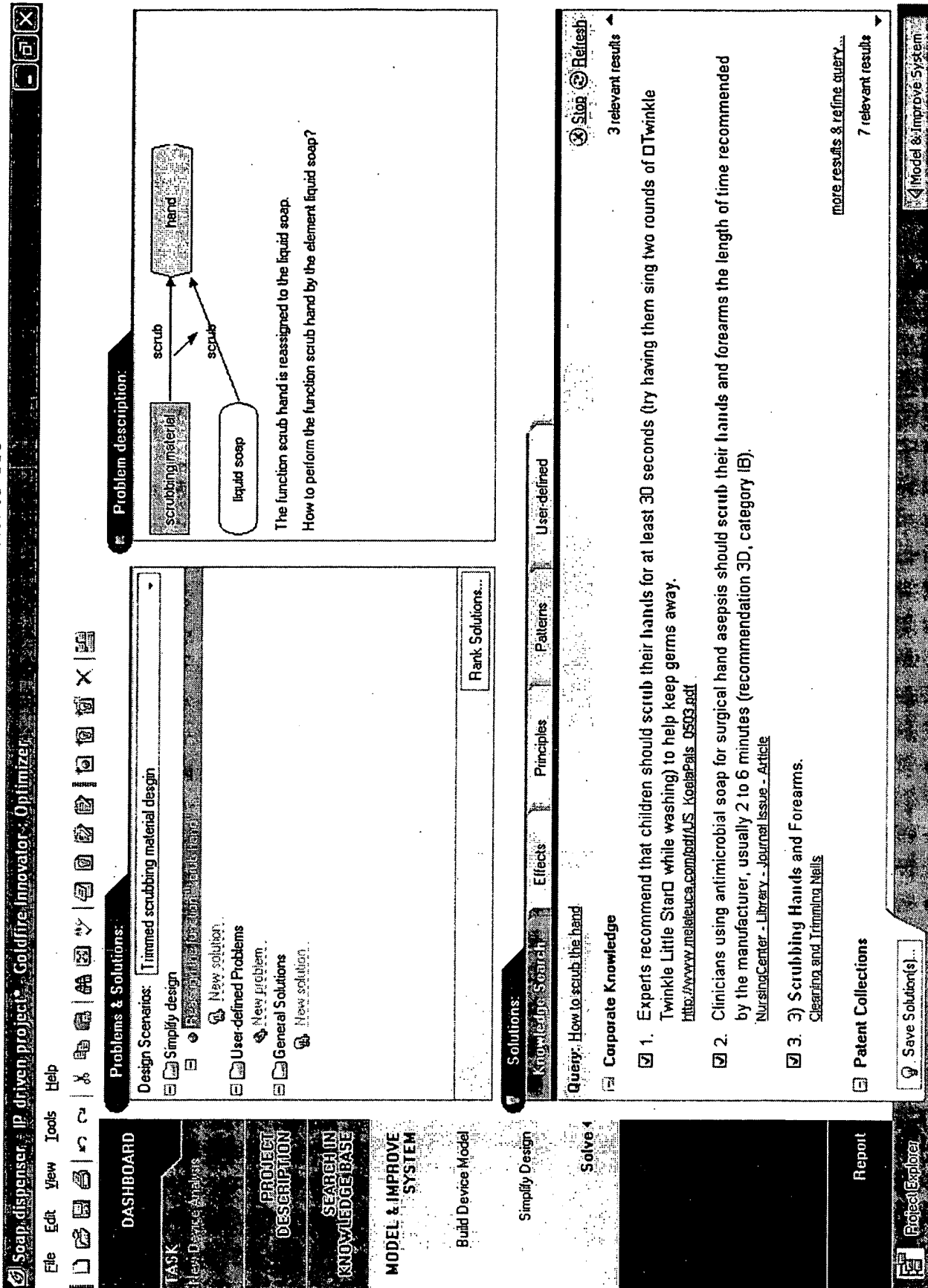


Fig. 4 Illustrative screen for a system in accordance with the principles of this invention

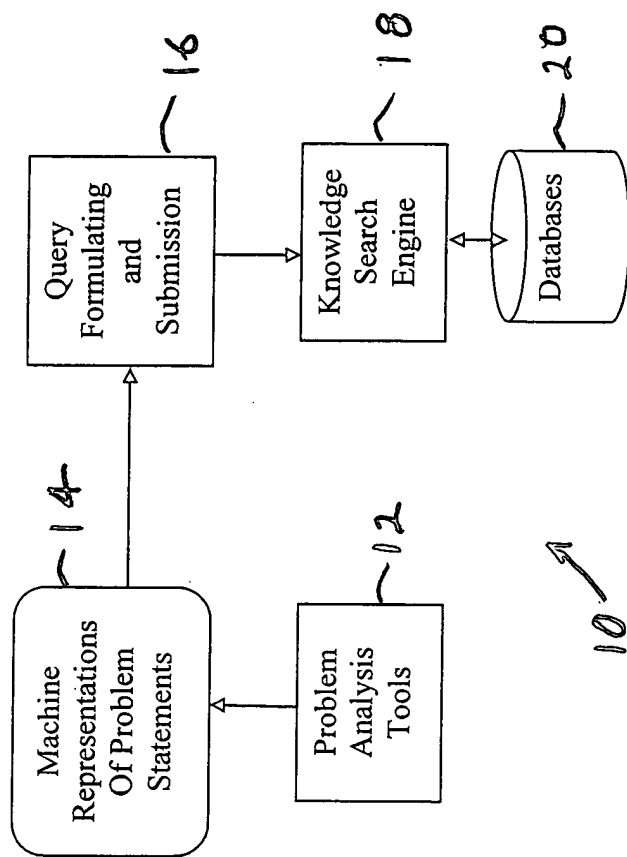


Fig. 5 High-level architecture of a system in accordance with the principles of this invention

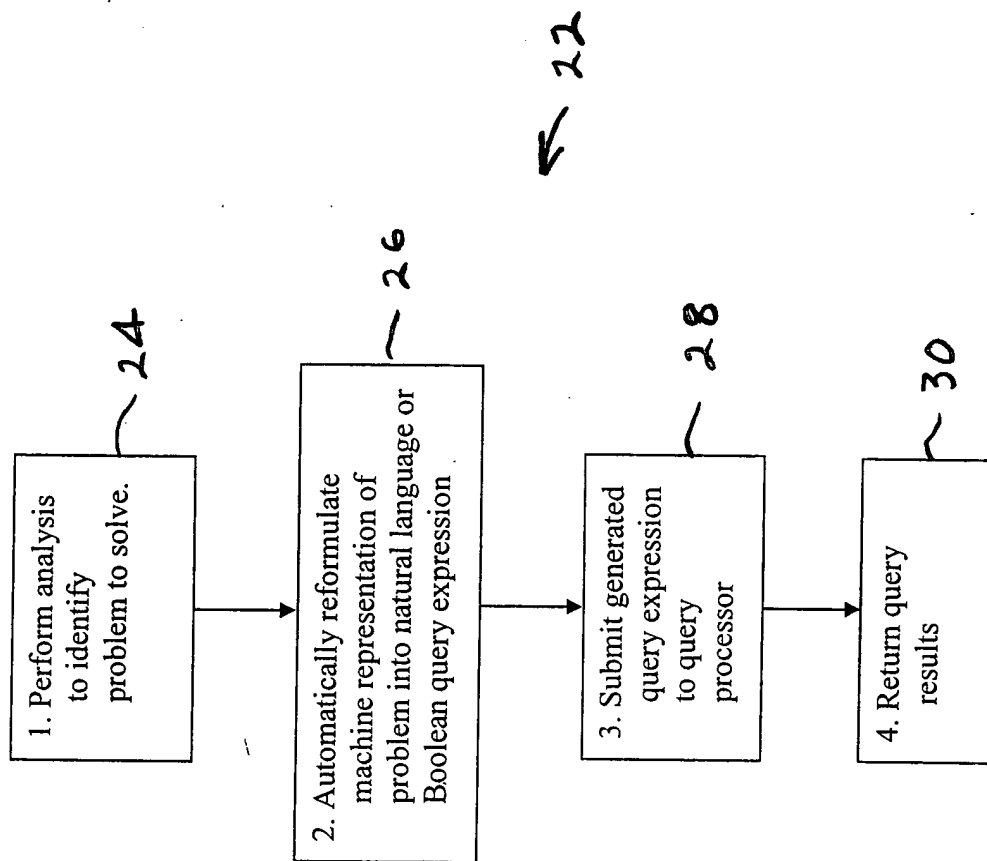


Fig. 6. Flow diagram of a system in accordance with the principles of this invention

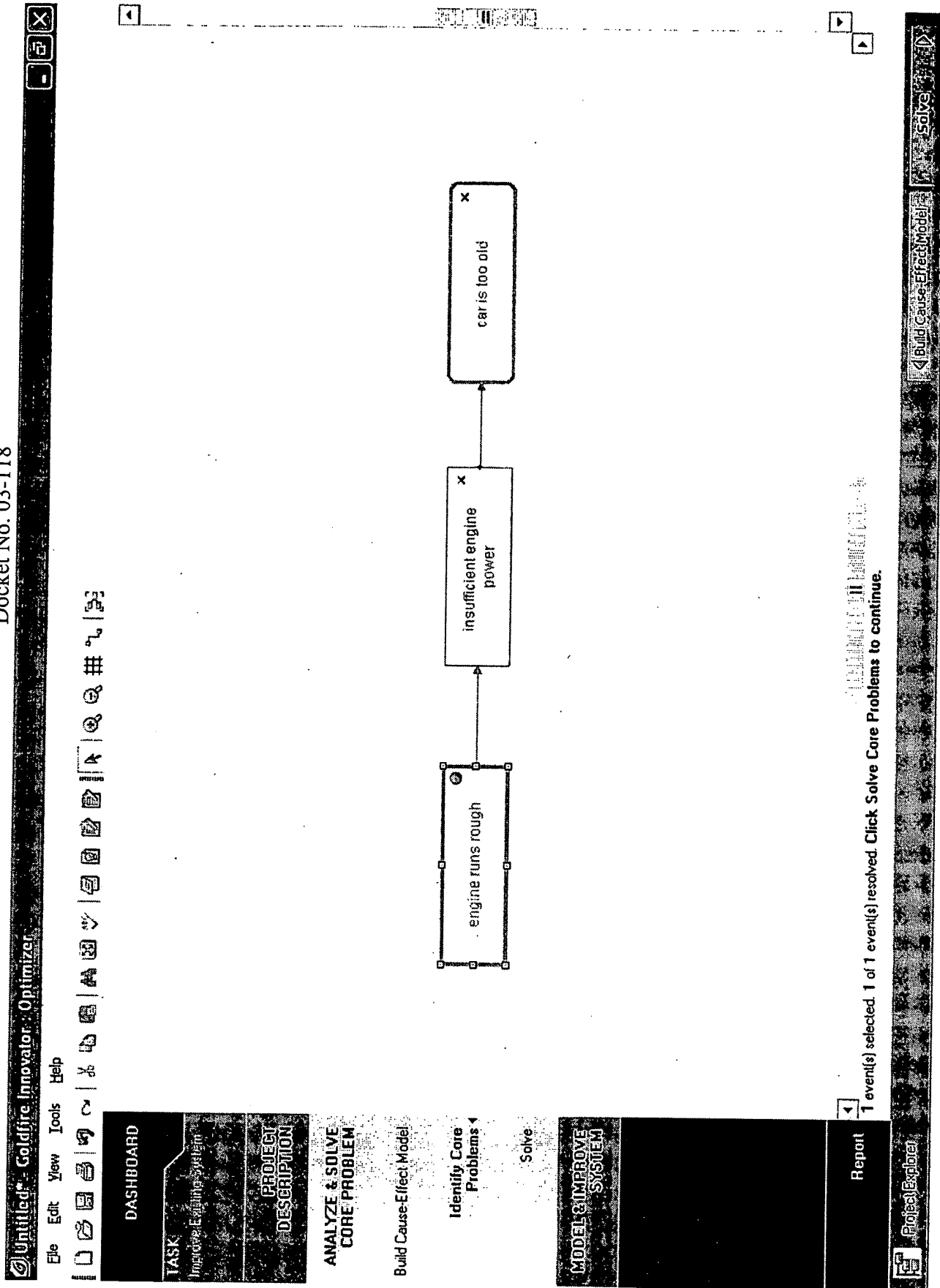


Figure 7 Illustrative screen showing problem analysis tool supporting root cause analysis

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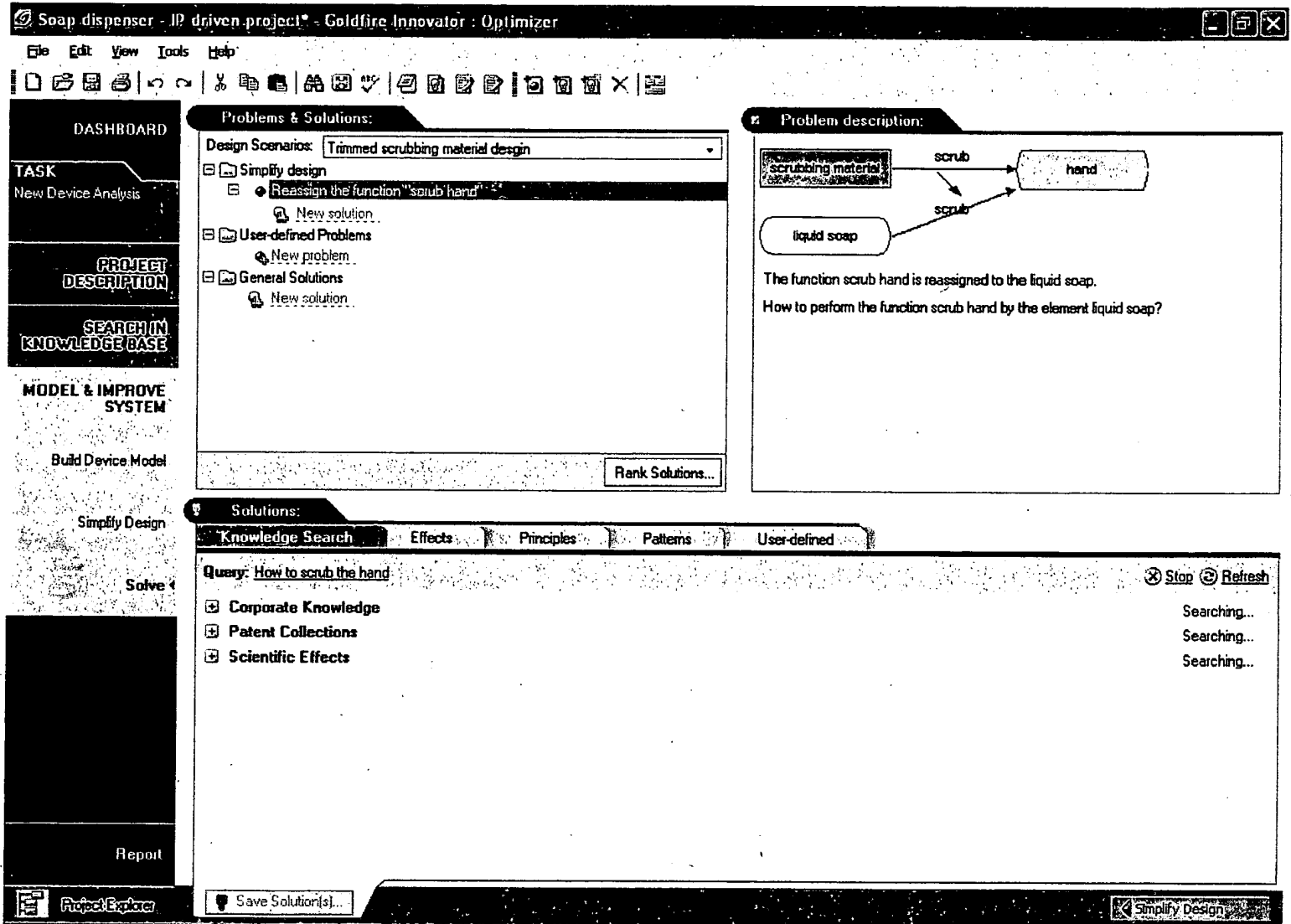


Fig 8

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Soap dispenser - IP driven project - Goldfire Innovator - Optimizer

File Edit View Tools Help

DASHBOARD

TASK
New Device Analysis

PROJECT DESCRIPTION

SEARCH IN KNOWLEDGE BASE

MODEL & IMPROVE SYSTEM

Build Device Model

Simplify Design

Solve

Report

Project Explorer

Problems & Solutions:

Design Scenarios: Trimmed scrubbing material design

- Simplify design
 - Reassign the function "scrub hand"
 - New solution
- User-defined Problems
 - New problem
- General Solutions
 - New solution

Rank Solutions...

Problem description:

```
graph LR; A[scrubbing material] -- scrub --> D(hand); B[liquid soap] -- scrub --> D;
```

The function scrub hand is reassigned to the liquid soap.
How to perform the function scrub hand by the element liquid soap?

Solutions:

Knowledge Search | Effects | Principles | Patterns | User-defined

Query: How to scrub the hand

- Corporate Knowledge
- Patent Collections
- Scientific Effects

Stop Refresh

3 relevant results
0 relevant results
0 relevant results

Save Solution(s)...

Simplify Design

Fig 9

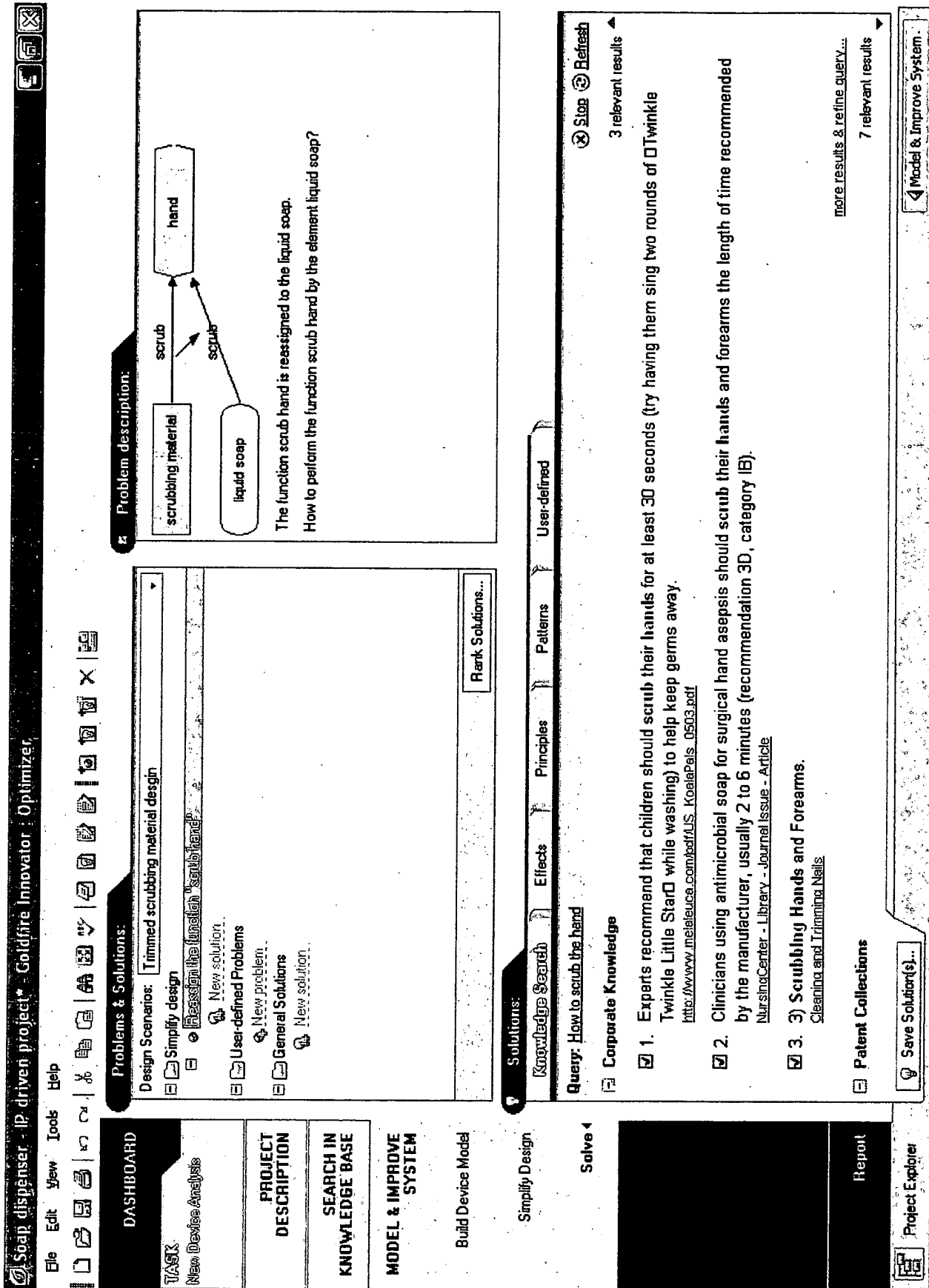


Fig. 4 Illustrative screen for a system in accordance with the principles of this invention